



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW1431G-JM BYPASS RATIO: 11.9
 UNIQUE ID NUMBER: 01P22PW175 PRESSURE RATIO (π_{co}): 35.6
 COMBUSTOR: TALON X, Block-C
 ENGINE TYPE: TF RATED THRUST (F_{oo}) (kN): 140.4

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	0.5	29.0	30.6	16.4
AS % OF ORIGINAL LIMIT	2.3	24.6	27.5	76.1
AS % OF CAEP/2 LIMIT (NO _x)			34.3	
AS % OF CAEP/4 LIMIT (NO _x)			39.1	
AS % OF CAEP/6 LIMIT (NO _x)			43.6	
AS % OF CAEP/8 LIMIT (NO _x)			49.8	

For non-volatile particulate matter (nvPM) emissions, please refer to the ICAO Engine nvPM Emissions Data Sheet.

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES
 x DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (% F_{oo})	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	0.950	0.02	0.22	22.60	14.9
CLIMB OUT	85	2.2	0.780	0.04	0.23	18.00	13.3
APPROACH	30	4.0	0.270	0.02	4.03	9.28	0.5
IDLE	7	26.0	0.090	0.30	25.22	5.14	1.0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			348	50	3835	4078	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				9	9	9	9
AVERAGE D_p/F_{oo} (g/kN) or AVERAGE SN (MAX)				0.4	26.8	28.4	14.9
SIGMA (D_p/F_{oo} in g/kN, or SN)							
RANGE (D_p/F_{oo} in g/kN, or SN)							

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.9-103
TEMPERATURE (K)	266.2-298.7
ABS HUMIDITY (kg/kg)	0.00036-0.01437

FUEL

SPEC	Jet A
H/C	1.86
AROM (%)	15.1-16.6

MANUFACTURER: Pratt & Whitney
 TEST ORGANIZATION: Pratt & Whitney
 TEST LOCATION: X7 Test Stand, East Hartford, CT
 TEST DATES: 02/03/2017-19/09/2017

NO_x REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
	2.3.2 d) (CAEP/6)
x	2.3.2 e) (CAEP/8)

REMARKS

- Data from certification report PWA-9850
- 3 engines tested
- TALON-X, Block-C* combustor
- Certification in accordance with ICAO Annex 16 Vol. II. 3rd Edition, Amendment 7, Part III, Chapter 2.

Compliance with Fuel Venting requirements:

x ('x' if complies, 'PR' if pre-regulation, '- ' if information is not available)